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(54) Title: POLYMORPHISMS IN THE HUMAN hPXR GENE AND THEIR USE IN DIAGNOSTIC AND THERAPEUTIC APPLICATIONS

(57) Abstract: Described are general means and methods of diagnosing and treating the phenotypic spectrum as well as the over-  
lapping clinical characteristics with several forms of inherited abnormal expression and/or function of the hPXR gene. In particular,  
polynucleotides of molecular variant hPXR gene which, for example, are associated with insufficient metabolism and/or sensi-  
tivity of drugs, and vectors comprising such polynucleotides are provided. Furthermore, host cells comprising such polynucleotides  
or vectors and their use for the production of variant hPXR proteins are described. In addition, variant hPXR proteins and antibod-  
ies specifically recognizing such proteins as well as transgenic non-human animals comprising the above-described polynucleotide  
or vectors are provided. Described are also methods for identifying and obtaining inhibitors for therapy of disorders related to the  
malfunction of the hPXR gene as well as methods of diagnosing the status of such disorders. Pharmaceutical and diagnostic compos-  
itions comprising the above-described polynucleotides, vectors, proteins, antibodies and inhibitors by the above-described method  
are provided. Said compositions are particularly useful for diagnosing and treating various diseases with drugs that are substrates,  
inhibitors or modulators of the hPXR gene product.

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